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Atari Online News, Etc.  
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~ Modem Lights Warning? ~ April Fool's Online! ~ Apple's \$13,000 OS!

-\* Web Slowed by Cyber Attack! \*-  
-\* Sony's PS Vita Comeback Continues! \*-  
-\* Next Xbox Will Require Internet Connection \*-

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->From the Editor's Keyboard "Saying it like it is!"  
"\*\*\*\*\*"

A belated April 1st - or April Fool's Day - greeting. Over the years, I've seen and heard numerous April Fool's "pranks". And, those attempts to enact them online or in print seem prevalent these days. I remember pulling a few of them myself, as lead stories in our old Atari usergroup, SSAG. One, in particular, referenced a fictitious purchase of Atari Corp. when it was on the verge of bankruptcy many moons ago. Others referred to other actions regarding Atari over the years.

After awhile, most "unlikely" stories that occur on or about April 1st are usually April Fool's jokes - especially those that you encounter online. People just seem more aware of the possibilities, and have some doubts whenever they come across such stories. In this week's issue, you'll see a couple of such prank attempts. C'mon people, you really need to become more innovative!

Hopefully, none of you fell prey to any practical jokes this year!

Until next time...

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->In This Week's Gaming Section - Sony's PS Vita Comeback Continues!  
"\*\*\*\*\*" The Next Xbox Will Require an Internet Connection!

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->A-ONE's Game Console Industry News - The Latest Gaming News!  
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Sony's PS Vita Comeback Continues As Wii U Flails

This is a crucial period for the PlayStation Vita: several weeks after a price cut that revived the console in Japan, Vita is demonstrating fairly astonishing tenacity. According to Famitsu, Vita remained the No. 2 console in Japan during the week of March 31st with 33,000 units sold, down moderately from 38,000 units in the previous week. The reason this week was particularly important was the debut of a major new title for Nintendo's struggling home console Wii U. Alarm bells at Nintendo's headquarters must be on full blast, because Dragon Quest X sold just 36,000 units and failed to lift weekly Wii U sales higher than 21,000 units from the previous week's dismal 10,000 unit level.

During the same week, the PS Vita received a far less known title, Muramasa: The Demon Blade, yet it was able to shift 39,000 units. Following the price cut of the PS Vita under 20,000 yen, the Japanese video game market has suddenly shifted to a new equilibrium where two portable consoles dominate the field. In the last week, Nintendo's 3DS sold 67,000 units and Sony's PS Vita sold 33,000 units. All home consoles sold 21,000 units or less.

The 3DS has received a boost from the popular new Luigi's Mansion game, but the gap between the top portable consoles has narrowed meaningfully. During the year 2012, 3DS outsold PS Vita by more than a 6-to-1 margin. But even after Luigi's Mansion: Dark Moon sold 400,000 units over a fortnight, the PS Vita has managed to keep its sales volume at half the 3DS level.

The Vita resurgence more than a year after it debuted could well motivate developers to give it another look. In the meantime, Nintendo is watching the time slowly run out before home console sector focus swings decisively towards the new PlayStation and XBOX models. Wii U's toehold in the console market is beginning to look tenuous indeed.

#### The Next Xbox Will Require an Internet Connection To Start Games

Two Kotaku sources have added more credence to the rumor that the next Xbox, expected to battle the PlayStation 4 in late 2013 or early 2014, will be an always-online system, though it will be able to tolerate dropped connections.

"Unless something has changed recently," one of the sources told us over email, "Durango consumer units must have an active internet connection to be used."

Durango is the codename for the next-gen Xbox.

"If there isn't a connection, no games or apps can be started," the source continued. "If the connection is interrupted then after a period of time - currently three minutes, if I remember correctly - the game/app is suspended and the network troubleshooter started."

The PS4 will not require an online connection to start or run games, Sony has confirmed. No gaming console ever has.

Reporting about the next-gen Xbox is still mostly a matter of checking rumors and leaks. No one in or out of Microsoft is authorized to discuss

the console publicly. But there are a growing number of people tied to the gaming industry, including our sources for this story, who have had the opportunity to familiarize themselves with Microsoft's plans for the machine. Development of games for the console is intensifying. Microsoft has sent beta development kits, sporting a new controller and Kinect motion/voice sensor array to game creators. Our main sources for this story have a perfect track record in getting these kinds of things right.

That said, a caution and a caveat: other sources familiar with the codenamed Durango console have told us that they are still unaware of any Microsoft plans regarding an online requirement. No one has been able to say it's not true and some have speculated that this is required at the operating system level and therefore isn't something Microsoft has to tell all developers or retail partners. Microsoft also has the ability to change this type of requirement seemingly at a moment's notice through changes in firmware or networking infrastructure.

Microsoft doesn't comment at all about its next-gen system, so the best we have from them on the matter is as follows: "We do not comment on rumors or speculation. We are always thinking about what is next for our platform, but we don't have anything further to share at this time." That's from a Microsoft spokesperson after we asked, today, about this always-online rumor and told them this story was planned.

But if Microsoft is about to walk this back, they probably haven't done so yet. One of our sources says that the always-online plan was in effect as recently as two weeks ago.

The always-online rumor has been swirling for about a year. We'd been hearing it but couldn't nail it down with the specificity we have today. We raised it as a possibility, tied to a good source, but were unclear how dropped connections would be handled. We also weren't clear if this was something like Microsoft's anti-used-game system, a plan the company briefed partners on in 2012 but that we had heard so little of since that it may well have gone away - or if this was like the plans for the new Kinect, which, it has become increasingly clear, is an essential element of the Durango.

An always-online requirement would obviously be a big deal. It raises many questions about how the system would perform in places that don't have reliable Internet and about the extent that the connection would be used to authenticate ownership of games. This is something every gamer would want to know about. So, since we first heard about it, we have tried to confirm whether the requirement was real and in the cards. Sources in development, publishing and retail mostly responded with shrugs.

In January, the hacker SuperDaE began sharing official development documents for the next-gen PlayStation and Xbox. Many of the dozens of pages of the Xbox/Durango documentation were full of programming code but the parts in plain English - the parts that, honestly, we could understand - said nothing about an online requirement. They were, however, crystal clear about the new system needing the new Kinect to operate: "Every Durango console ships with a Kinect sensor. A Kinect sensor must be attached and configured for the console to function."

Some sources told us that they believed that the Durango development kit required an online connection so that Microsoft could keep tabs on them and update them with new, ever-evolving firmware. Others weren't sure.

A few weeks ago, we heard from one reliable industry source who told us

about a Durango developer making a game that would use an always-online connection for gameplay purposes, to constantly be able to share game data back and forth. It wasn't clear, though, if this indicated the Durango's capacity to be always online - Nintendo's Wii had its own optional 24/7 always-online mode - or if the online connection was a must.

Meanwhile, the site VGLeaks, which appeared to have access to many of the same Durango documents shared with Kotaku by SuperDaE posted a new document that appeared to indicate an online connection was required for the console. It referred to an "Always Online, Always Connected" console, the better to give users current content and quick access to their entertainment, without waiting for updates or for the machine to boot up. We were unable to confirm this document's authenticity, but the major gaming website IGN reported that they confirmed that it is real. The gaming magazine Edge has also reported that their sources say the next Xbox will require an online connection.

The new confirmation we've heard from sources, including the specifics about how the Durango would handle a dropped connection, bolsters our confidence that all this smoke is a sign of some fiery facts.

But why would they do this?

Every person we've talked to about the always-online connection, internally and externally, has been incredulous. They predict a fiasco. They detect hubris in a Microsoft riding high off of the Xbox 360's incredible post-Kinect sales performance. But they also detect, as I have, an intensified interest in Microsoft's part to position the next Xbox as an entertainment device, to not emphasize games as significantly as they had with past Microsoft consoles. Add that to far shakier rumors of the next Xbox working as a cable box or DVR or some other TV-viewing enabler - something not a single source of mine could confirm - and you might wonder: if my cable box always has to be connected, why not my next Xbox?

There are reasons for Microsoft to not do this, of course. They merely need to see the disastrous launch of EA's always-online SimCity and decide whether the negative backlash of selling people a product that can't work when the servers go down is worth it - especially if the earlier version of that product didn't require that kind of Internet connection.

They could also look at the competition and imagine a consumer standing at a store, deciding whether to buy a PS4 or the next Xbox. One wouldn't require online; the other, if our best sources are right, would. Surely, some would prefer the system without the online requirement.

As mentioned above, things can change. Microsoft may reveal its next Xbox this month, in May or, at the latest, at E3 in June. We'll know more then. We'll hopefully know what they've decided.

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## Internet Slowed By Cyber Attack on Spam Blocker

One of the largest ever cyber attacks is slowing global internet services and the disruption could get worse, experts said on Wednesday, after an organization blocking "spam" content became a target.

Spamhaus, a London and Geneva-based non-profit group which helps weed out unsolicited "spam" messages for email providers, said it had been subjected to "distributed denial of service" (DDoS) attacks on an unprecedented scale for more than a week.

"Based on the reported scale of the attack, which was evaluated at 300 Gigabits per second, we can confirm that this is one of the largest DDoS operations to date," online security firm Kaspersky Lab said in a statement.

"There may be further disruptions on a larger scale as the attack escalates."

Spamhaus publishes blacklists used by internet service providers (ISPs) to weed out spam in email traffic.

The group is directly or indirectly responsible for filtering as much as 80 percent of daily spam messages, according to Cloudflare, a company that said it was helping Spamhaus mitigate the attack.

"We've been under this cyber-attack for well over a week," Steve Linford, chief executive of Spamhaus, told the BBC. "They are targeting every part of the internet infrastructure that they feel can be brought down."

Perpetrators of DDoS attacks typically target websites by flooding servers with messages from multiple systems so they cannot identify and respond to legitimate traffic.

Paul Vlissidis, group technical director at internet security firm NCC, said the volumes of traffic involved in the attack were having a knock-on effect on the rest of the internet.

Because many computers were involved in the attack, it was difficult to defend against.

"If you have a few computers sending large amounts of traffic you can filter them out easily. When literally thousands and thousands are involved it makes it much, much harder," he told Reuters.

However, according to thinkbroadband, an independent British information website which allows users to test their broadband speed, there appeared to be little evidence of a slowdown.

"Of course it is possible that people may be finding some services or sites they access over the Internet are performing slower than usual ... but there appears to be no evidence to say that UK broadband users have been slowed down across the board," it said on its blog.

## Anonymous Threatens Cyberwar on North Korea, Steals 15,000 Passwords

Notorious hacking group Anonymous has targeted pedophiles, corrupt governments and financial institutions, however its latest target may be its most audacious yet. The group says that it has begun a new initiative called Operation Free Korea and is demanding controversial leader Kim Jong-un resign and install free democracy in the Asian country. Other demands include having North Korea abandon its nuclear ambitions and for the government to give universal and uncensored Internet access to its citizens. Anonymous hackers claim to have access to the country's local intranets, mail servers and Web servers and are threatening to wage war if their demands are not met.

We got all over 15k membership records of Uriminzokkiri.com and many more, the group wrote. First we gonna wipe your data, then we gonna wipe your badass dictatorship government.

Anonymous threats towards North Korea come amid increased tensions on the Korean Peninsula with South Korea and the United States. The group explicitly stated, however, that it does not support the U.S. and is instead a fighter for freedom.

## Six European States Take Aim at Google Privacy Policy

European regulators moved a step closer to penalizing Google for the way it handles user data after the search engine refused to change its privacy policy.

France, Germany, Italy, the Netherlands, Spain and Britain said on Tuesday they began a process to decide if Google's policy introduced in March 2012 broke national laws.

Google consolidated 60 privacy policies into one last year and started combining data collected on individual users across its services, such as YouTube, Gmail and social network Google+. It gave the users no means to opt out.

Twenty-nine European data protection regulators began a joint enquiry as a result.

The enquiry, led by France's CNIL, found in October that Google's new policy posed a "high risk" to the privacy of individuals, although it stopped short of declaring it illegal.

The regulators gave Google until February to propose changes but the search engine did not make any after a March 19 with national regulators.

"Regulators in six states have begun the process of looking at penalties, and each must now act based on national law," said Isabelle Falque-Pierrotin, CNIL's president, in an interview.

"We have put in place a countdown for Google now. Promises to change will no longer be enough."

The six states have the power to impose fines on Google, said Falque-Pierrotin, but each must go through a local inquiry to determine

that a wrong had been committed under national law even after the European joint position published in October.

They will use the joint analysis to underpin their investigations and will "not start from scratch", she added.

Google said it would continue to cooperate with European regulators.

"Our privacy policy respects European law and allows us to create simpler, more effective services," said spokesman Al Verney in an emailed statement.

The year-long tussle with the Web search giant is seen by legal experts and policymakers as a test of Europe's ability to influence the behavior of international Internet companies.

Policymakers are debating a draft Europe-wide data protection law under which transgressors could be fined as much as 2 percent of their annual global turnover.

It would impose stricter rules on how companies collect and store customer data and would require notification of data breaches. The plan has sparked a lobbying effort by big technology companies, banks and other firms who worry it would lumber them with additional costs.

Jacob Konhstamm, head of the Dutch data protection regulator, said the fact that each state had to take enforcement action separately showed the need for the new law.

"If anybody needed an argument that the directive should change, then this is it," he said in an interview.

A spokesman for Britain's Information Commissioner's Office (ICO) said it was likely to decide in the summer what action, if any, to take against Google. The highest penalty the ICO can impose is 500,000 pounds (\$756,400).

France's CNIL has begun its action against Google and the next likely step would be to notify the search engine that it is in violation of local law, giving it three months to respond before fines can be applied. The maximum fine is 300,000 euros.

Italy and Spain also confirmed in emailed statements that they had begun local enforcement actions.

#### Dutch Banks' Online Services Hit by Cyberattack

Dutch banks say a cyberattack has affected their online services, but did not breach the security of customers' accounts.

The Netherlands Association of Banks says Dutch and some foreign banks were hit by a denial-of-service attack, in which huge amounts of data overwhelm servers like hundreds of letters being jammed through a mail slot at the same time.

The association did not say who was responsible for the attack Friday.



In the Netherlands, the attack temporarily forced Internet and mobile banking sites of the ING bank offline and also affected online payments for other banks.

The association stressed that bank customers could still get cash and pay bills at ATMs.

#### Windows Blue May Be Released This Summer As Windows 8.1

The next version of the Windows operating system may not be known as Windows 9, as had previously been reported. According to ZDNet, the operating system, which is currently known internally as Windows Blue, will come to market as Windows 8.1 and Windows RT 8.1 later this summer. The latest rumors suggest that Microsoft's (MSFT) upcoming Windows update will include a variety of new features such as customized live tiles and improvements to the Snap View feature. The company is expected to announce Windows 8.1 at its Build developers conference on June 26th in San Francisco, and it will reportedly be released to manufacturing partners around August.

#### \$25 Raspberry Pi Model A Now Available in the U.S.

The cheaper model of the Raspberry Pi Foundation's microcomputer is now available in the United States. The Raspberry Pi Model A is equipped with the same 700MHz processor as the more expensive Model B but includes only one USB port, no Ethernet port, and half the RAM of the original model to keep the price low. Sales of the Model A began in Europe in February and expanded to Asia last week. Raspberry Pi founder Eben Upton has revealed that sales of the cheaper Pi unit are around a few thousand a week so far.

We burned through the first 20,000 units quite quickly, and are building a few thousand a week at the moment, but we don't have good visibility of sell through yet, Upton said in a statement to TechCrunch. I'd expect us to dip in and out of availability for the next month or so until we reach a steady state.

The device consumes roughly a third of the power of the Model B and is marketed towards do-it-yourself projects that use a battery or solar power. The Raspberry Pi Model A is available to American buyers for \$25 from Allied Electronics.

#### Mozilla and Samsung Collaborate on Next Generation Web Browser Engine

Mozilla's mission is about advancing the Web as a platform for all. At Mozilla Research, we're supporting this mission by experimenting with what's next when it comes to the core technology powering the Web browser. We need to be prepared to take advantage of tomorrow's faster, multi-core, heterogeneous computing architectures. That's why we've recently begun collaborating with Samsung on an advanced technology Web browser engine called Servo.

Servo is an attempt to rebuild the Web browser from the ground up on modern hardware, rethinking old assumptions along the way. This means addressing the causes of security vulnerabilities while designing a platform that can fully utilize the performance of tomorrow's massively parallel hardware to enable new and richer experiences on the Web. To those ends, Servo is written in Rust, a new, safe systems language developed by Mozilla along with a growing community of enthusiasts.

We are now pleased to announce with Samsung that together we are bringing both the Rust programming language and Servo, the experimental web browser engine, to Android and ARM. This is an exciting step in the evolution of both projects that will allow us to start deeper research with Servo on mobile. Samsung has already contributed an ARM backend to Rust and the build infrastructure necessary to cross-compile to Android, along with many other improvements. You can try this now by downloading the code from Github, but it's just the beginning.

Rust, which today reached v0.6, has been in development for several years and is rapidly approaching stability. It is intended to fill many of the same niches that C++ has over the past decades, with efficient high-level, multi-paradigm abstractions, and offers precise control over hardware resources. But beyond that, it is *\*safe by default\**, preventing entire classes of memory management errors that lead to crashes and security vulnerabilities. Rust also features lightweight concurrency primitives that make it easy for programmers to leverage the power of the many CPU cores available on current and future computing platforms.

In the coming year, we are racing to complete the first major revision of Rust—cleaning up, expanding and documenting the libraries, building out our tools to improve the user experience, and beefing up performance. At the same time, we will be putting more resources into Servo, trying to prove that we can build a fast web browser with pervasive parallelism, and in a safe, fun language. We, along with our friends at Samsung will be increasingly looking at opportunities on mobile platforms. Both of these efforts are still early stage projects and there's a lot to do yet, so now is a good time to get involved.

To take a look at what we're doing and contribute to the projects you can download and try the recently-released Rust 0.6 or check out the source for Rust and Servo on GitHub. Then come participate in the development process on the Rust (<https://mail.mozilla.org/listinfo/rust-dev>) and Servo (<https://lists.mozilla.org/listinfo/dev-servo>) mailing lists.

## US Patent Office Results: IBM #1 for 20th Consecutive Year

IBM technology helps industry evolve to meet the most demanding end-users and IT professionals

Every year, the USPTO publishes the top 50 U.S. Patent creators. And in 2012, IBM ranked #1 for the 20th consecutive year, with 6,478 patents granted. IBM considers their most recent inventions as major contributors to a shift in computing known as the era of cognitive systems.

The company's history of technological innovation has helped it stay at the forefront of the IT industry for over 50 years, and is a major reason why Sirius Computer Solutions has been an IBM Business Partner since 1980.

As the world's top IBM solutions provider, Sirius offers clients the complete IBM portfolio of advanced products and services.

### Apple, Google Won't Face Poaching Class Action Suit, Yet

A U.S. judge ruled that a lawsuit alleging a broad conspiracy among Silicon Valley companies not to poach each other's employees cannot proceed as a class action for now, but left the door open for workers to eventually sue as a group.

In a decision released on Friday, U.S. District Judge Lucy Koh in San Jose, California said the five software engineers suing Apple Inc, Google Inc and five other companies have yet to show enough in common among the proposed class members to allow them to sue together.

But in deciding to give the plaintiffs another chance, the federal judge said she was "keenly aware" new evidence had recently become available that could support class certification.

She also said the nature of the "alleged overarching conspiracy" and desire to litigate it all at once weighed "heavily" in favor of certifying a class, which the plaintiffs' lawyers have said could include tens of thousands of people.

The case has been closely watched in Silicon Valley, and much of it has been built on emails among top executives, including the late Apple Chief Executive Steve Jobs and former Google Chief Executive Eric Schmidt.

If the plaintiffs win class certification, then they would have more leverage to extract large financial settlements than if they were to sue individually.

Other defendants in the case include Adobe Systems Inc, Intel Corp, Intuit Inc, and Walt Disney Co's Lucasfilm Ltd and Pixar units.

The defendants were accused of violating the Sherman Act and Clayton Act antitrust laws by conspiring to eliminate competition for labor, depriving workers of job mobility and hundreds of millions of dollars of compensation.

These allegations are similar to those raised in a U.S. Department of Justice probe that ended in a 2010 settlement, which forbade several of the defendants from entering an anti-poaching conspiracy, such as through the use of "Do Not Cold Call" lists.

Koh said she wants more evidence that a proposed class does not include large numbers of people who suffered no harm.

She also expressed concern over whether evidence would show that the defendants had "such rigid compensation structures" that would have affected nearly everyone in a class.

But in a signal that certification could be forthcoming, Koh appointed Lief Cabraser Heimann & Bernstein and the Joseph Saveri Law Firm as co-lead counsel for the plaintiffs.

"The court has invited us to provide further answers to certain specific

questions, which we are prepared to do," Saveri said in an email. "We are in the process of determining a schedule for doing that as quickly as possible."

Apple spokeswoman Amy Bessette declined to comment. Google spokesman Matt Kallman would not discuss the decision, but said "we have always actively and aggressively recruited top talent."

Intel spokesman Chuck Mulloy said the chipmaker opposes certification, and believes the evidence will show its employees "were fairly compensated in a highly competitive market."

Adobe spokeswoman Christie Hui declined to comment. The other companies did not immediately respond to requests for comment.

Among the revelations in the litigation was a 2007 email trail involving Jobs and Schmidt, then an Apple director, over Google's apparent effort to recruit an Apple engineer.

After Jobs emailed Schmidt that he "would be very pleased if your recruiting department would stop doing this," Schmidt forwarded the email to others he urged to "get this stopped."

Koh also cited a January 2007 email from Ed Catmull, then Pixar's president and now president of Walt Disney and Pixar Animation Studios, to the head of Disney Studios that suggested a desire to avoid bidding up the price of talent.

"We have avoided wars up in Norther[n] California because all of the companies up here - Pixar,, Dreamworks, and couple of smaller places - have conscientiously avoided raiding each other," he wrote.

All of the defendants are based in California: Adobe in San Jose; Apple in Cupertino; Google and Intuit in Mountain View; Intel in Santa Clara; Lucasfilm in San Francisco; and Pixar in Emeryville. Walt Disney is based in Burbank.

The case is In re: High-Tech Employee Antitrust Litigation, U.S. District Court, Northern District of California, No. 11-02509.

### The Untold Story Behind Apple's \$13,000 Operating System

In the common retelling of Apple's history, it was Steve Jobs' and Steve Wozniak's second computer, the Apple II, that launched their fledgling company toward stratospheric growth and financial success. The machine's triumph as a single platform for business software, games, artistic tools - and more - set the stage for the later debut of the first Mac, and later OS X and iDevices.

What many forget - or may not even know - is that when the Apple II was introduced at the inaugural West Coast Computer Faire in April, 1977, it suffered from what, in retrospect, was a glaring shortcoming: It had no disk drive.

Thanks to 35-year-old documents that have recently surfaced after three-plus decades in storage, we now know exactly how Apple navigated around that obstacle to create the company's first disk operating system.

In more than a literal sense, it is also the untold story of how Apple booted up. From contracts - signed by both Wozniak and Jobs - to design specs to page after page of schematics and code, CNET had a chance to examine this document trove, housed at the DigiBarn computer museum in California's Santa Cruz Mountains, which shed important new light on those formative years at Apple.

What they show is the process, driven by Jobs' urgency and inspired by Wozniak's technical vision, yet emblematic of their reliance on outside help, behind one of the most vital software projects in Apple's history. Without the project, we now know, Apple's ambitions of selling a serious computer for a wide audience might very well have collapsed just as the company was on the verge of making the big time.

With its professional-looking (for 1977) injection-molded case and a design aesthetic to match Jobs' perfectionism, the Apple II was a breakthrough product for the time. But though it was years ahead of the kit-like Apple I that it was meant to replace, the Apple II still only offered a cassette drive.

"They were in trouble," recalled Bruce Damer, founder of the DigiBarn. "With a cassette, you had to wait and wait and wait [to load anything] and it was unreliable. It was a hit or miss process. Can you imagine trying to build a company on this?"

Wozniak and Jobs weren't blind to the need for a functional, and powerful, disk drive and a disk operating system to run the system. But despite its deep bench of in-house talent - a roster of eventual Silicon Valley legends including the likes of Woz himself, Jef Raskin (the "father of the Mac"), John "Captain Crunch" Draper, to name a few - building its own DOS was beyond Apple's ability at the time. The company needed to look elsewhere.

Though the Apple I brought Wozniak and Jobs fame in the largely insular world of enthusiasts, the computer had no case, no power supply, and no keyboard - and failed to generate much interest among business buyers. With the Apple II, however, which Wozniak designed in the fall of 1976, Apple set out to attract a wider audience. It was a decision that laid the groundwork for a more expansive sales and marketing strategy. First item on the agenda: Get a disk drive into the system to force the market to take Apple seriously.

"The difference between cassette and disk systems was the difference between hobbyist devices and a computer," said Lee Felsenstein, the creator of the Osborne I, the world's first portable computer. "You couldn't have expected, say, VisiCalc, to run on a cassette system."

VisiCalc, the first spreadsheet program, was one of - if not the - single-most important pieces of software in PC history. As Paul Laughton, who wrote Apple's DOS, put it, VisiCalc was "the thing that [made] microcomputers take off."

That's because it gave businesspeople a reason to spend a lot of money on a new microcomputer. "If you knew VisiCalc, and what it did, and you were a skilled salesperson, and the right person came in the door," said Dan Bricklin, the co-creator of VisiCalc (along with Bob Frankston). "You could probably sell them a fully-loaded machine."

Bricklin explained that he and his publisher released VisiCalc for the Apple II first, in part because his publisher, Dan Fylstra, was an Apple

fan, and in part because they had an assembler for the 6502 chip that the Apple II was based on. But the decision to go first with the Apple, Bricklin said, was partially based on the fact that the Apple II was more likely than its competitors to have the floppy drive.

For a year, VisiCalc was an Apple exclusive, and during that time, about a thousand copies of the software were sold a month. That number may seem small today, but at the time, it was significant. Plus, Bricklin said, "it corresponded to a lot of Apples being sold - more than a million dollars in Apple computers being sold every month."

Can you draw a line from Apple's DOS to the company's eventual success through VisiCalc? Felsenstein certainly thinks so. VisiCalc, he said, "was the killer app, the one that made everybody pay attention and realize that you could do real stuff with these devices. They were not toys."

Talk to just about anyone intimately familiar with the Apple II, and one thing you'll hear often is that the disk controller Wozniak designed over the 1977 Christmas holidays for the computer was a proverbial game changer.

The chief innovation was making the controller compact by using software while competitors relied on hardware. As Bill Fernandez, then an electronic technician at Apple, remembers it, "the key advantage of [Wozniak's] design [was] that it used only six chips instead of the usual 60 to 70 - a huge reduction in size and cost."

Wozniak's design for the disk drive controller is said to have been groundbreaking for using just a handful of chips while most others needed dozens.

Bricklin said Woz's controller was "wonderful," while Felsenstein marveled at its "elegance." Damer called it "masterful." And surely Apple's financial people were happy, because the simple design meant profit margins would be much higher than those on competitors' drives.

But no matter how great its disk controller was, Apple had no DOS. Or any way to build one of its own. "They looked around Apple," Damer said, "and no one could write a DOS."

Wozniak's options were few. On the one hand, he told CNET, there were no existing disk operating systems for the 6502 chip. And though the Apple II did have a mini-DOS built into its ROM that could redirect input and output streams to any slot by manual or program command, Wozniak wanted more.

One option was CP/M, a popular OS at the time. But it was known to be clunky, and though Wozniak said he talked to CP/M's creator, Gary Kildall, about operating systems, "I was looking for something easier to use."

Although he knew little about operating systems, Wozniak is confident he could have built a good one. But his co-founder couldn't wait. "Steve Jobs, who didn't have patience for a project that took more than a week, found [Shepardson Microsystems] and...they sounded eager and knowledgeable...so we hired them."

As then-Shepardson employee Paul Laughton remembers it, Wozniak came by one day saying Apple had a disk drive, but no DOS, and was wondering what to do. "I said, 'I know about operating systems.' And so he said, 'Cool, let's have you do it.'"

On April 10, 1978, the contract was signed. For \$13,000 - \$5,200 up front, and \$7,800 on delivery, and no additional royalties - Shepardson Microsystems would build Apple's first DOS - and hand it over just 35 days later. "Amazing," said Damer, speaking about that deadline. "Can you imagine delivering an operating system in just 35 days today, with no tools and partially functional hardware? That truly was the greatest generation of programmers."

For its money, Apple would get a file manager, an interface for integer BASIC and Applesoft BASIC, and utilities that would allow disk backup, disk recovery, and file copying.

"I sat down and started writing," Laughton recalled. It "was written on punch cards. It was put into a minicomputer and assembled, and the output was paper-taped. Then we proceeded to debug it."

In the recently surfaced documents, which Laughton donated to the DigiBarn, is a wealth of information about the Apple DOS project. From contracts - signed by both Wozniak and Jobs - to design specs to page after page of schematics and code, this is a treasure trove of Silicon Valley and Apple history. Or, as Damer said he thought upon looking through the papers, "Oh my God, these are possibly the most important Apple documents in history."

"The difference between cassette and disk systems was the difference between hobbyist devices and a computer. You couldn't have expected, say, VisiCalc, to run on a cassette system."

One of the fun parts about reading through the documents is seeing pages filled with Wozniak's own writing. The project, after all, was based on specs Apple's legendary co-founder gave Laughton for how to create a boot disk. Among the treats - for those who can appreciate such things - is Wozniak's hand-drawn diagram for his highly regarded floppy disk controller.

The margins of the source code also have a series of notes explaining what's going on that are like catnip for true Apple geeks. Looking over the documents, and seeing a comment about "Must not cross page boundary," Apple's sixth employee, Randy Wigginton, who worked closely with Shepardson Microsystems on the project, said, "I forgot how crossing a page boundary added an extra cycle on the 6502."

"The 6502 liked everything to be in neat 256-byte 'page boundaries,'" Wigginton explained to CNET by e-mail. "When writing code that had to be rigorous about timing, you had to be careful about crossing a page boundary....[Otherwise] an extra cycle was consumed by the processor. That's why Woz has a note 'Must not cross page boundary' on his code."

For Laughton, who turns 69 this month, his essential role in one of Apple's most important projects was a career highlight. Even in 1978, he could tell Apple was a special company, particularly because he recognized the "genius of Wozniak in the design of the Apple II and the design of the disk drive interface card."

He's also had plenty of opportunities to revisit his contribution to Apple. "From time to time, it would come up in conversation and someone would say they had an Apple II, and I'd say I wrote the DOS," Laughton said. "They were like, 'Wow, did you make a lot of money,' thinking I probably worked for Apple."

In fact, though, Laughton made about \$35,000 a year working for Shepardson at the time. He knows how much he could have made on Apple stock if he'd worked directly for Wozniak and Jobs, but in 1978, Apple was just another startup, and Laughton enjoyed the steady work writing software for Shepardson's many clients.

Besides, he recalled, "I remember talking to Wozniak, and his salary was lower than mine."

### Can Modem Lights Warn of Danger?

Your modem and router lights are blinking all the time even when you know that no one is using the Internet. Is that a warning that something is wrong?

Mostly, the lights on your modem or router indicate perfectly normal activity. Even when you aren't actively browsing the web or downloading a video, your computer busily monitors all its network connections to your Internet Service Provider, to your Wi-Fi-connected phones, and to other connected devices, like your cable box, AppleTV, or Xbox. And all of this communication shows up as activity on your modem or router.

While most blinking lights are nothing to worry about, there are some real threats that you should know how to protect yourself from.

Botnets: Botnets are software programs that scan through the Internet looking for unsecured computers they can take over and turn into zombie spam machines. But no need to panic here; any computer that has even a basic firewall or is behind a router is perfectly safe.

Wi-Fi Thieves: Wi-Fi thieves are most likely your neighbors who don't feel like paying for their own service. This isn't a big threat, except that it may slow down your own connection plus, it isn't really fair. If you suspect you have a Wi-Fi thief, log into your router and look at the list of devices connected. You should mostly see devices you recognize. If a neighbor is using your network, it's likely their device will be simply labeled. These Wi-Fi thieves are generally thwarted pretty easily; just change the name of your router and your Wi-Fi password.

Viruses: if you have a virus on your computer, it could be sending traffic through your router too. Or worse, if someone has installed monitoring software, that could be sending out a log of all your Internet activity. To check, first run a virus scan and then try a network traffic monitor like Little Snitch for Mac or the Comodo Firewall for Windows machines.

### April Fools: YouTube Shut Down, Google Adds Smells

Twitter did away with vowels, Google unveiled a button to add smells and the cast of the 1990s sitcom "Wings" launched a Kickstarter campaign.

The digital world celebrated April Fools' Day with the rollout of mock innovations and parody makeovers. Many of the top online destinations spent Monday mocking themselves and, in Google's case, playfully trying to



lure users into pressing their noses against their computer screens.

Google, having already debuted its wearable Google Glass, on Monday showcased Google Nose to add scents to its search results. It urged visitors to lean in close and take a deep whiff for search results such as "unattended litter box."

"In the fast-paced world that we live in, we don't always have time to stop and smell the roses," product manager Jon Wooly said in a video. "Now with Google Nose Beta, the roses are just a click away."

YouTube, despite 72 hours of video uploaded every minute, said it was shutting down. The Google Inc.-owned video site joked that its eight-year rise was merely a lengthy talent search. At the end of the day, nominees were to no longer be accepted so judges could, for the next 10 years, sift through the billions of videos and declare a winner.

Google has always been one of the most enthusiastic April Fools' Day observers, and on Monday it trotted out an extensive lineup of satire. It also added a "treasure map mode" to Google Maps, complete with "underwater street view," and trumpeted Gmail Blue, in which the revolutionary upgrade is the simple addition of the color blue.

The comedy site Funny or Die parodied the recent Kickstarter campaign for a "Veronica Mars" movie with a number of crowd-funding campaigns for other 1990s shows, including "Wings" and "Family Matters." The mock campaigns included videos with original cast members trapped by nostalgia.

"You've been asking for it for years," "'Wings" star Crystal Bernard says in a video asking for \$87 million. "Think of it like a \$1,000 ticket to the film. Or \$20,000!"

Instead of linking to a way to donate money, the mock campaigns led users to charities including the Make-a-Wish Foundation: "Please channel that giving energy into one of these very real, very worthy charities," read the site, slyly suggesting a more deserving cause for donation than Kickstarter projects.

Twitter, not content with the brevity of 140 characters, said it was "annncng" Twttr, a service that would limit messages to just consonants. In an apparent dig at the splitting in half of Netflix memberships between DVD and streaming, Twitter said users would now have to pay \$5 a month for the premium use of vowels.

Netflix, meanwhile, boasted joke genre categories such as "Reality TV about people with no concept of reality."

Hulu offered a new slate of programming for its video site, presenting fictional series as if real, completed shows. "30 Rock" fans were baited with the promise of an actual "The Rural Juror" (a fake film frequently alluded to on "30 Rock" starring Jane Krakowski's character), and "Arrested Development" watchers were tempted by finally getting to see an episode of "Mock Trial with J. Reinhold."

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